



# Illinois Commerce Commission's Policy Session – Increased Use of Natural Gas

A Producer's Perspective

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America's  
Natural Gas  
Alliance

# Driving Demand for Natural Gas

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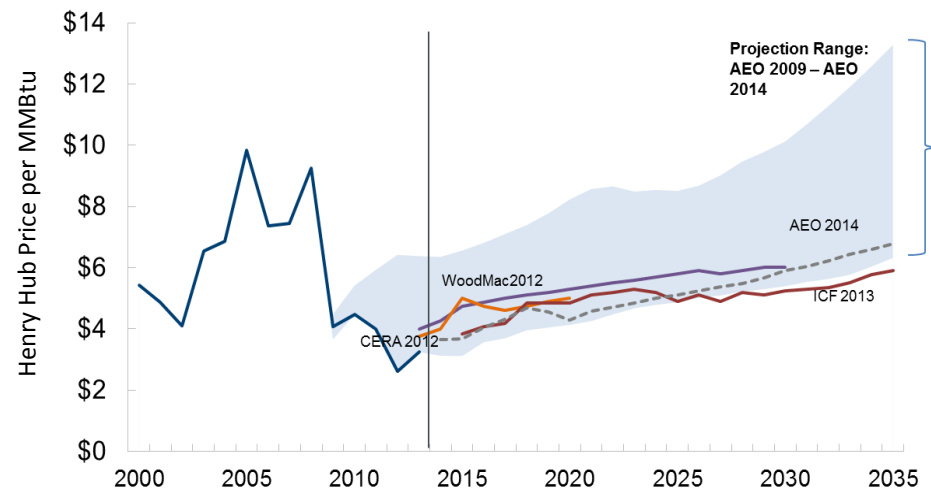
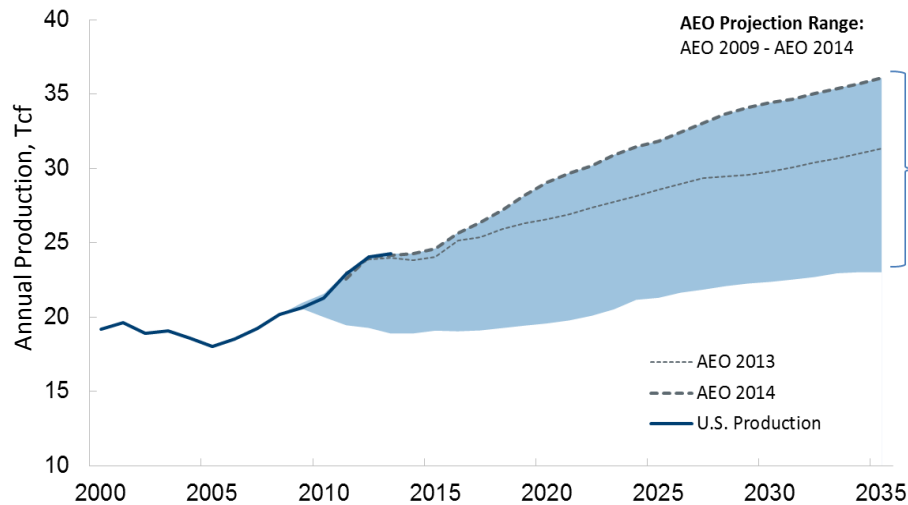


# Basic Messages for Illinois

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- There is plenty of natural gas supply, and ability to increase production as needed.
- Wellhead prices are projected to stay low and stable for many decades.
- Illinois is tremendously well-positioned as the crossroads and destination of supplies from across the continent, coming in from almost every direction.
- The in-state network of pipeline and storage is huge and flexible.
- The next step is to grow your gas-fired generation.

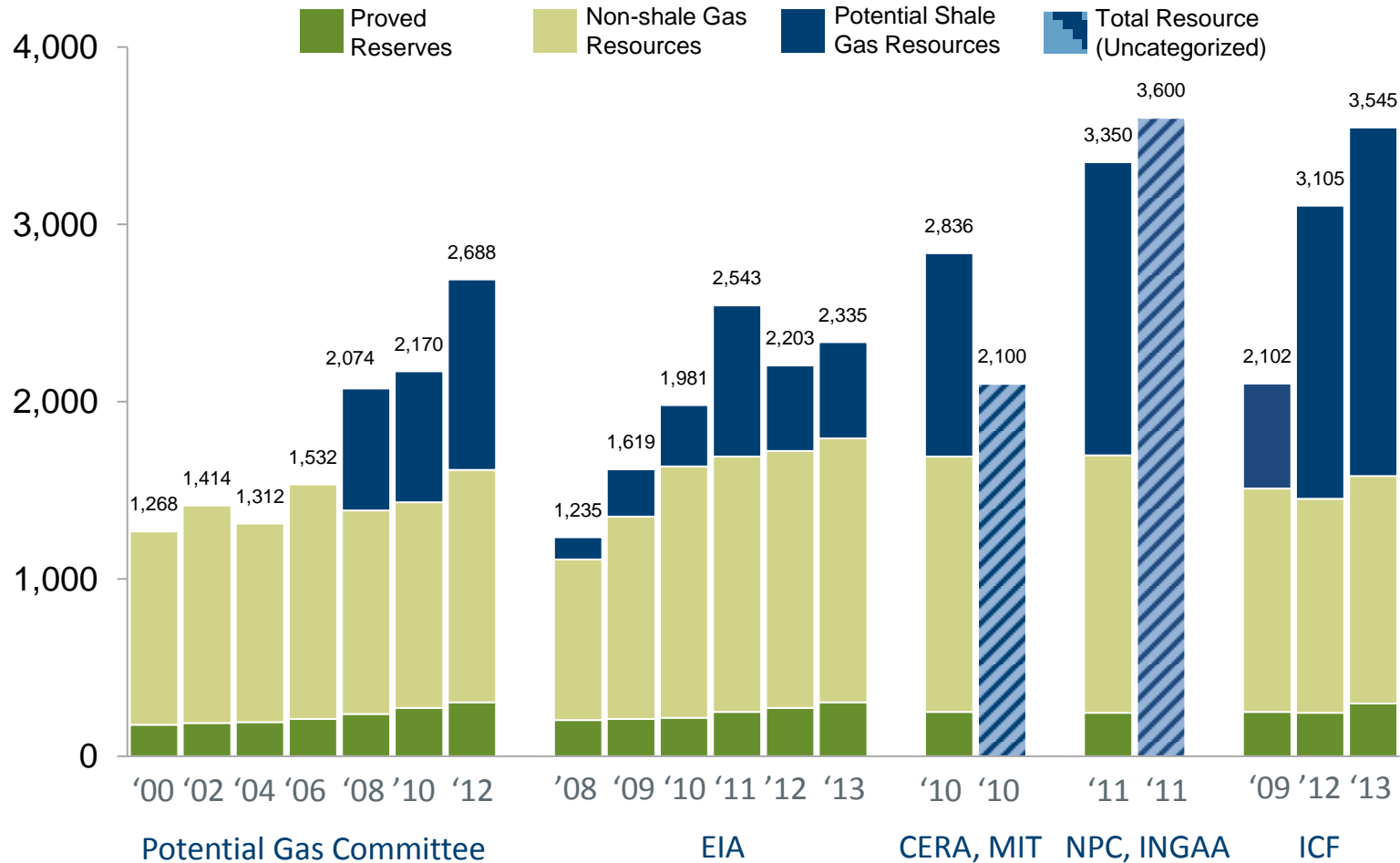
# Supply and Affordability



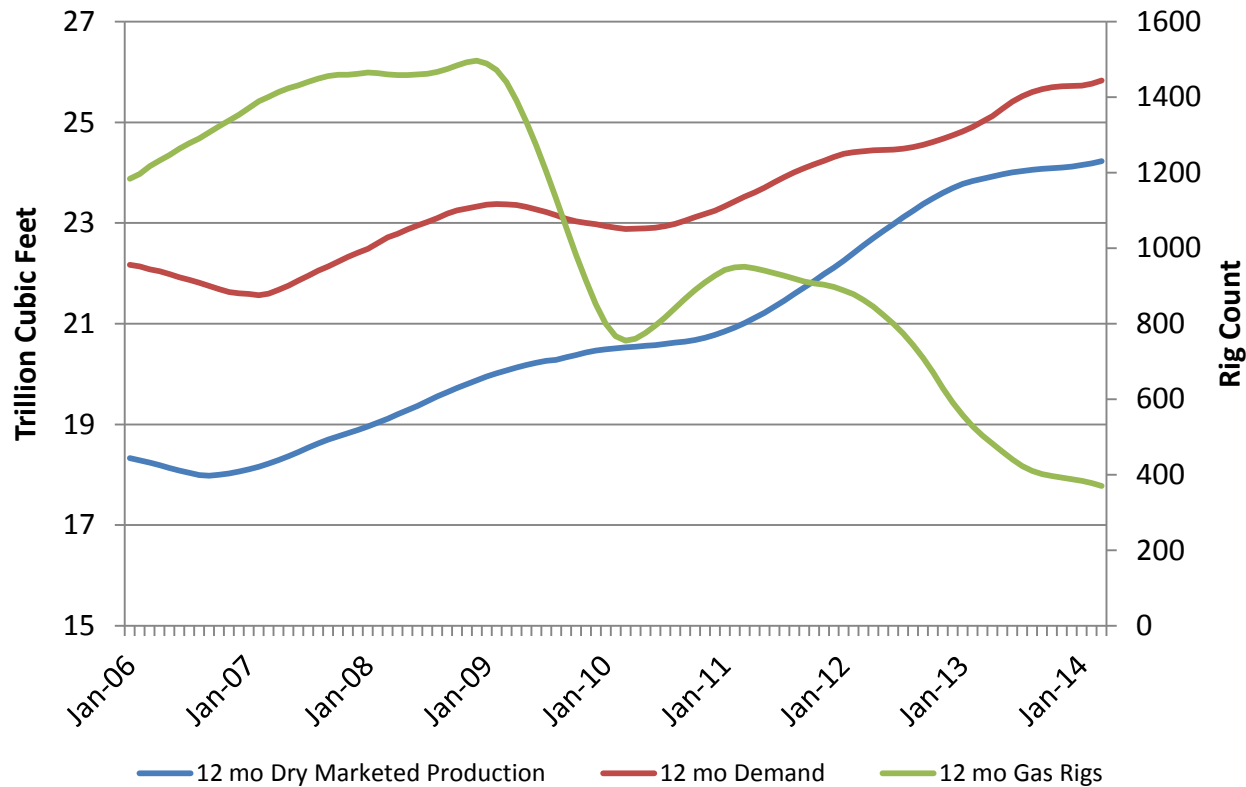
Source: U.S. Energy Information Administration, "Annual Energy Outlook 2014," Table 2.1, "Natural Gas Production and Consumption," and Table 2.2, "Natural Gas Prices."

# Abundant Supply and Growing

Estimates of U.S. Recoverable Natural Gas  
(trillion cubic feet)



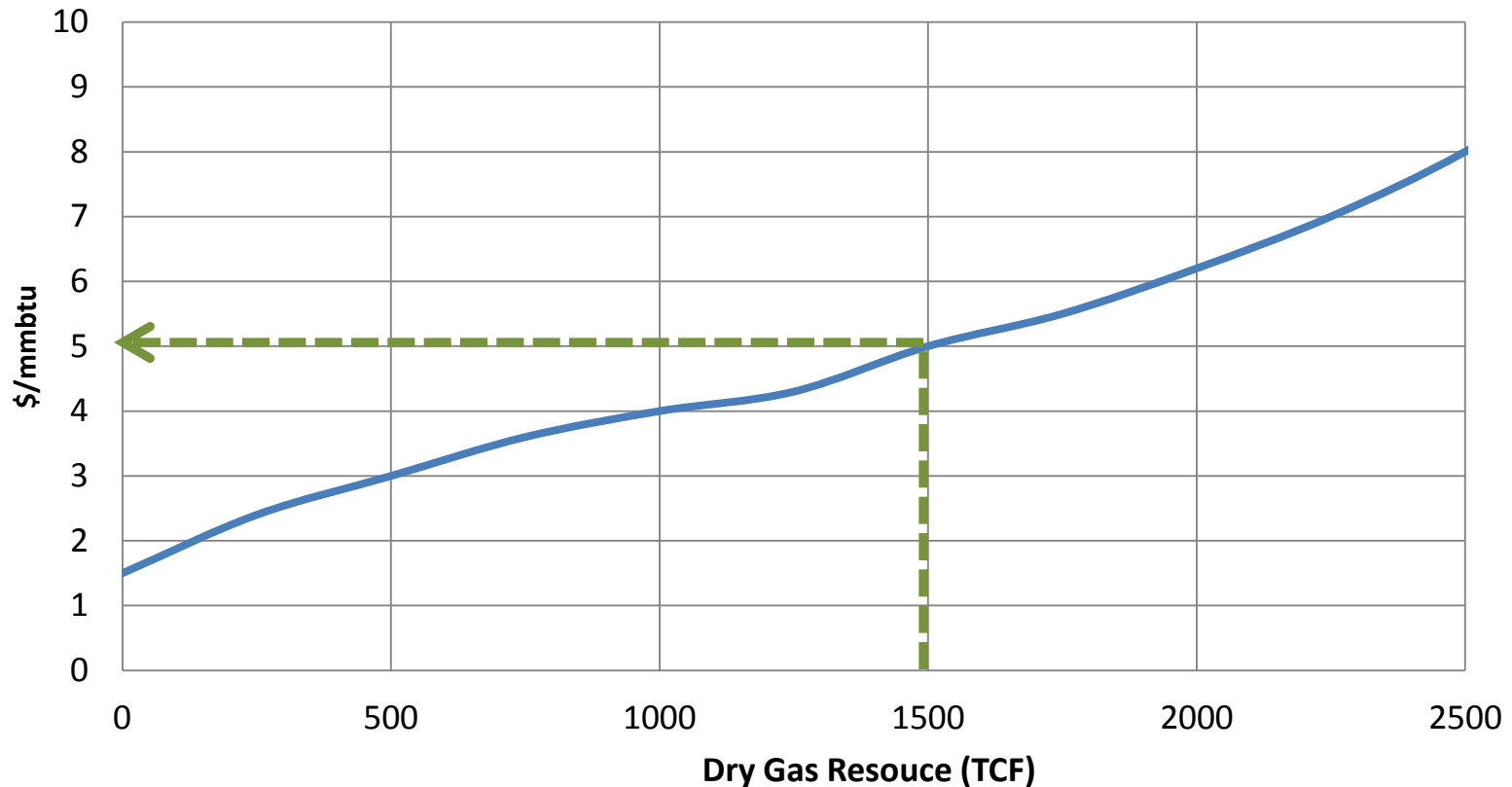
# Fewer Rigs, More Production



Source: EIA - 12 Month Rolling Average of Production and Demand,  
Baker Hughes - 12 month Rolling Average of Rig Count

# Volume and Cost

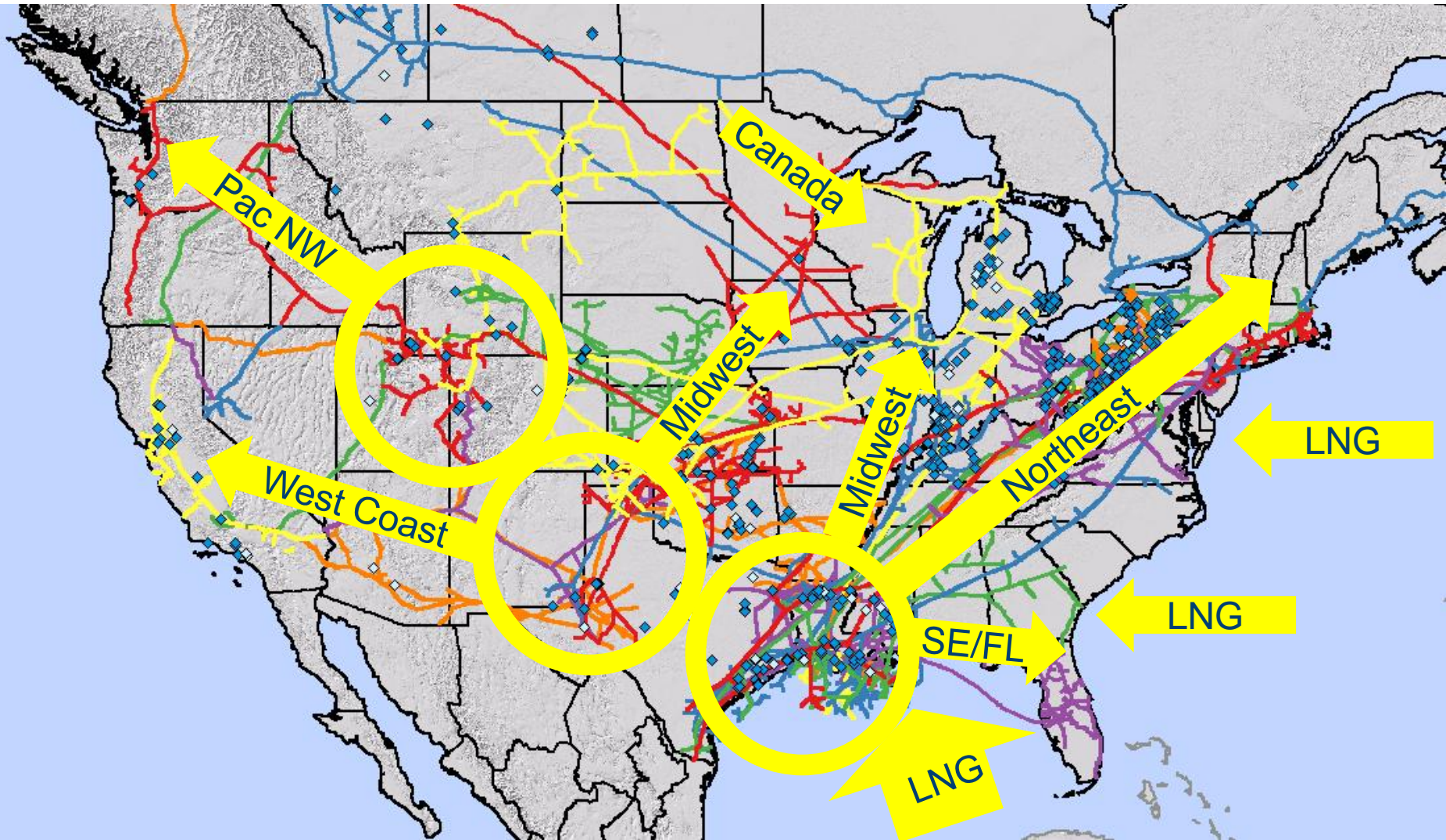
**U.S. & Canada Supply Curve**



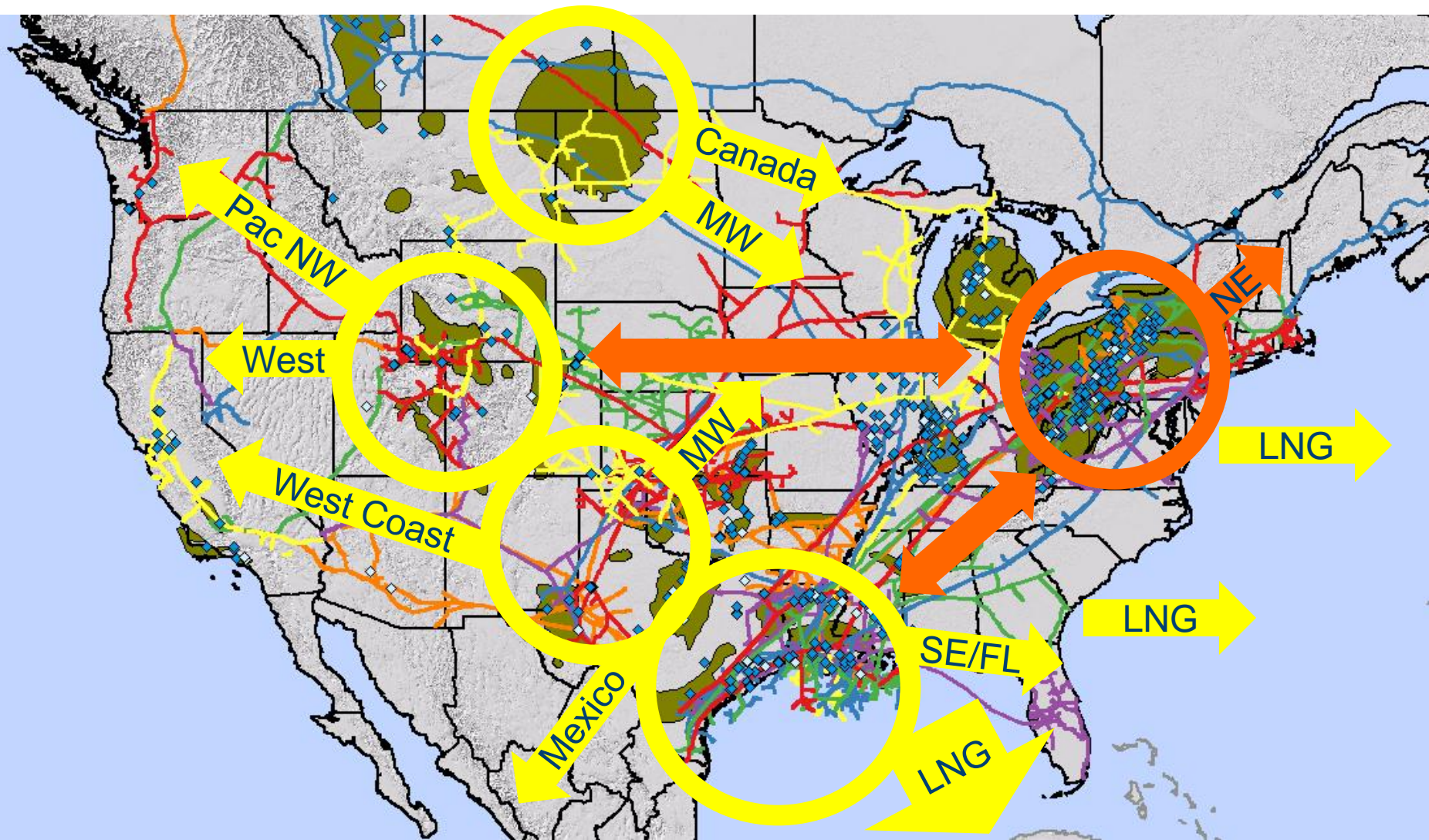
Source: ICF, "Assessment of NYC Natural Gas Market Fundamentals and Life Cycle Fuel Emissions", June 2012

# The Shale Redirection— Major Pipeline Flow Paths Historically

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# The Shale Redirection— Flow Paths After Shale Development

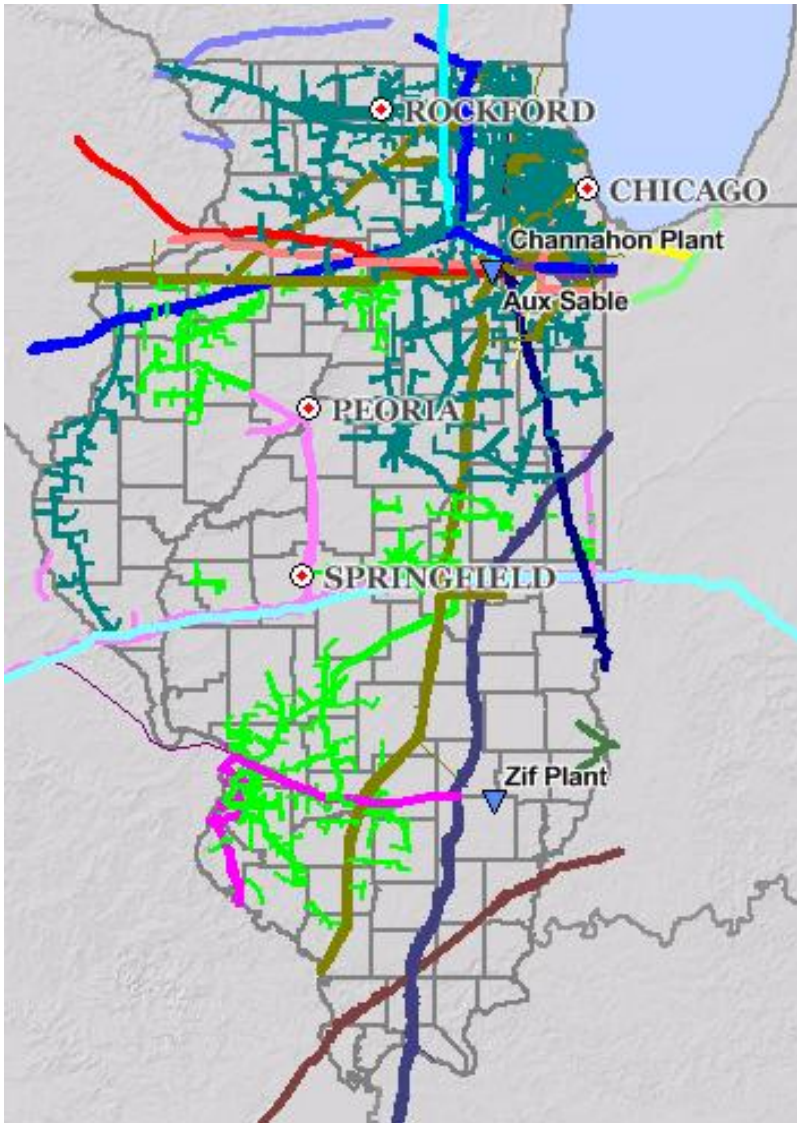


# Illinois—Crossroads of the Gas Industry

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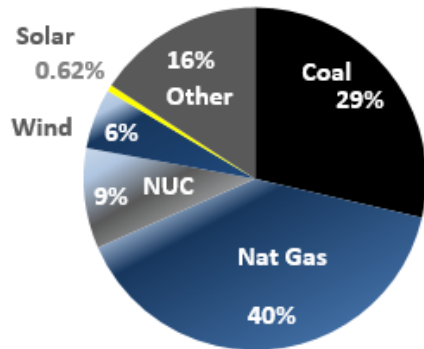
- Illinois is a key transportation hub for crude oil and natural gas moving throughout North America, with over a dozen interstate natural gas pipelines, two natural gas market centers, several petroleum and petroleum product pipelines, and an oil port.
- Source: US Energy Information Administration, State Profile and Energy Estimates, Illinois

# Illinois Natural Gas Infrastructure

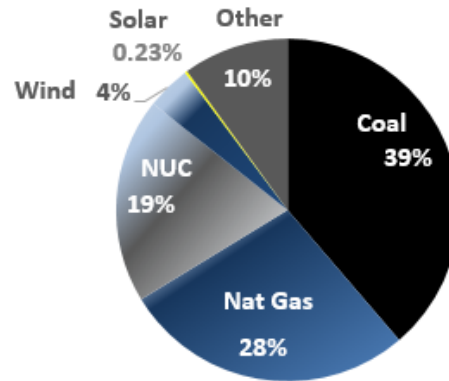


- Illinois has 22 interstate pipelines, 4 intrastate pipelines, and 9 major local distribution companies.
- Over 12,000 miles of interstate and intrastate pipelines serve the state, supported by very large aquifer and depleted reservoir storage fields.
- Home to two major trading hubs for natural gas – ANR Joliet Hub and Chicago Hub
- Importantly, supplies feed in from every direction and every major supply area.

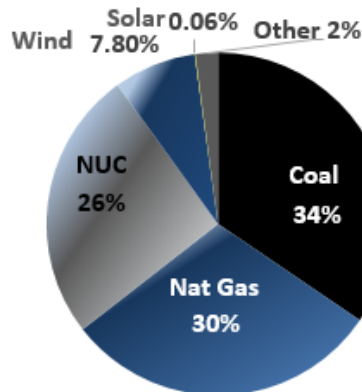
# Gas Fired Generation far behind National Average



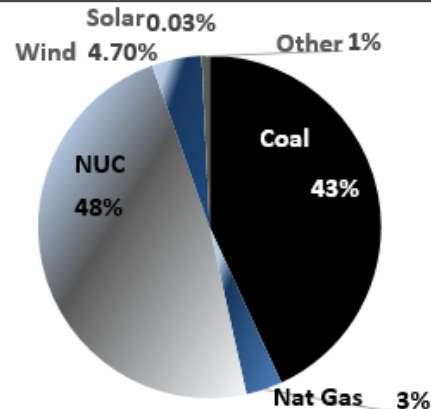
2013 Generation Capacity--NATIONAL



2013 Actual Generation--NATIONAL



2013 Generation Capacity--ILLINOIS



2013 Actual Generation--ILLINOIS

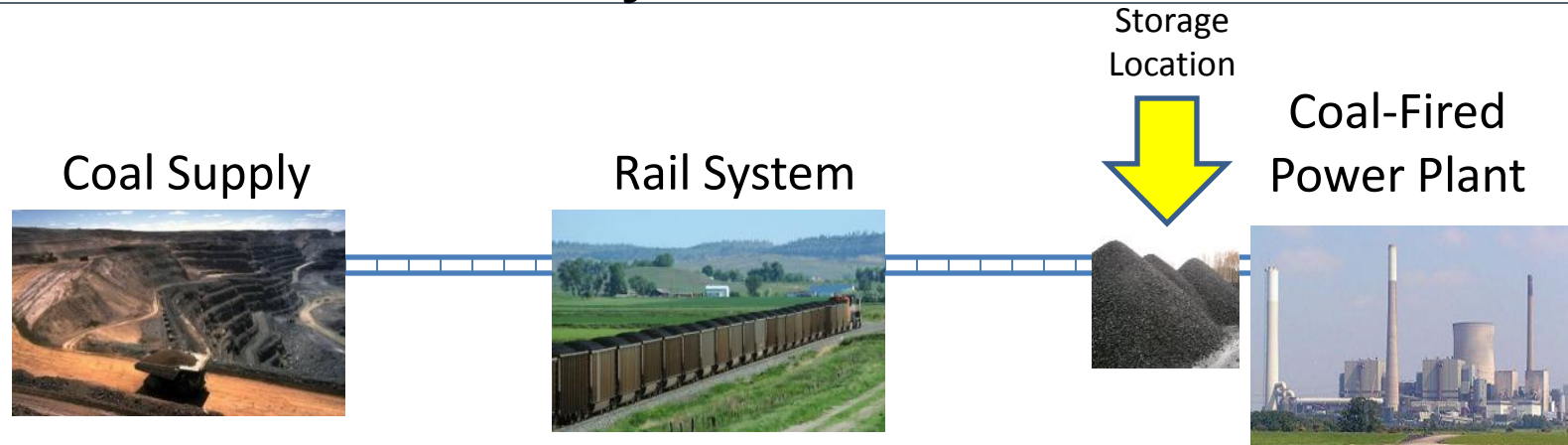
Source: US Energy Information Administration, Forms 860 and 923

# Combined-Cycle Generation

- Combined-cycle power and steam generators work together to optimize power generation.
  - The natural gas turbines turn a generator to generate electricity. The heat exhaust produced is used to generate steam, which is then used to drive other electrical generators.
  - This allows these combined cycle units to reach efficiencies up to 60%, as opposed to the 25-30% range of simple cycle combustion turbines.
- GE:
  - Our turbines average 98 percent reliability.
  - Our turbines achieve 96 to 98 percent availability in baseload performance.
- DOE/NREL:
  - Default estimates of combined cycle power plant availability (capacity factor) are 87%.



# Reliable Delivery for Baseload Power

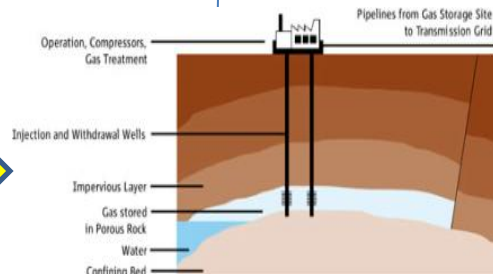
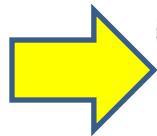


Natural Gas Supply



Reliable Transportation and Storage/Portfolio Management

Storage Location  
(Depleted Reservoir,  
Salt Cavern, Aquifer)



Natural Gas-Fired Power Plant





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